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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,219	04/05/2006	Nigel-Philip Cox	2002P14335WOUS	6983

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

CARRILLO, BIBI SHARIDAN

ART UNIT	PAPER NUMBER
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1792

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09/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,219	Applicant(s) COX ET AL.	
	Examiner Sharidan Carrillo	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13-20 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite because it is unclear how the metal M can be Cr. If this is the case, the formula reads "CrCrAlY". Why would Cr be recited twice in the claimed formula?

Claims 22-23 are indefinite because they are dependent on cancelled claim 21. Claims 22-23 are further indefinite because it is unclear whether "the oxygen donor" refers to "any oxygen donor already intrinsically present in the molten bath" or the "sufficient amount of any oxygen donor".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

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Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 13-20 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wustman et al. (US2005/0161439), in view of Applicant's admission of the prior art and further in view of Fusnocht (3532591).

Wustman teaches removing an aluminide coating from a turbine (paragraph 33) comprising treating the turbine component in a salt bath comprising NaOH and KOH (paragraph 52), treating the substrate with an acid comprising nitric acid. In paragraph

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6, Wustman teaches that it is well known to strip the coating from the substrate with combinations of acids including nitric acid, phosphoric acid. Re claim 13, Wustman teaches a nickel-based superalloy which is coated with an aluminide bond coating and a yttria-stabilized zirconia thermal barrier top coat (paragraph 76). In paragraph 77, Wustman teaches performing a mechanical operation to remove the thermal barrier coating. Specifically, Wustman teaches grit blasting the blade to remove the thermal barrier coating, treating the turbine component with a caustic bath (KOH) followed by treating with an acid bath of nitric acid solution (paragraph 78). Paragraph 52 teaches the caustic basic includes NaOH, KOH and mixtures thereof. Paragraph 6 teaches stripping the aluminide with various combinations of acids including nitric and phosphoric acid. Re the molten bath, refer to paragraph 53.

Re claim 13, Wustman teaches that turbine components are coated with various coatings which include the diffusion coating and overlay coatings MCrAl(X), where M is selected from Ni, Co, Fe. Wustman fails to teach the turbine components having a MCrAlY between the ceramic thermal barrier coating and the substrate layer.

Applicant's admits on page 1-2 bridging, paragraph 6, that it is conventional for a turbine component to be coated with a bonding layer of MCrAlY, which is typically applied between the substrate and the ceramic thermal barrier coating for purposes of improving efficiency. The skilled artisan would have reasonably expected the turbine component of Wustman to be coated with a bonding layer of MCrAlY between the ceramic thermal barrier coating and the substrate layer since Applicant's admits that it is well known and conventional to coat the turbine component with the bonding layer of

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MCrAlY, between the substrate and the ceramic thermal barrier coating, for purposes of improving efficiency.

Re claim 13, Wustman teaches a bonding layer, as described in paragraph 3. Wustman teaches the removal of the ceramic thermal barrier coating by grit blasting, as described in paragraph 77. Wustman teaches the removal of the platinum aluminide coating using a molten salt bath, followed by nitric acid, as described in paragraphs 78-79. However, Wustman fails to teach removal of the bonding layer of MCrAlY using a molten bath followed by nitric acid. It would have been within the level of the skilled artisan to apply the method of Wustman to remove a bonding layer of MCrAlY since paragraphs 13-14 teaches that the method can be applied to the selective removal of any aluminide material, which would include the MCrAlY and further in view of the teachings in paragraphs 3 and 6 of the reference which show the functional equivalence of platinum aluminide and MCrAlY and that these aluminides in general can be removed with the KOH molten salt bath.

Re claim 13, Wustman in view of Applicant's admission of the prior art fail to teach adding sodium oxide to the salt bath. However, Wustman teaches an aqueous solution of NaOH. Fusnocht teaches that reagent or technical grade NaOH has normal impurities which include Na₂O (col. 2, lines 24-27). Since Wustman teaches an NaOH bath and Fusnocht teaches NaOH includes impurities such as Na₂O, one would reasonably expect the NaOH bath of Wustman to also include Na₂O impurities, thereby meeting the limitations of claim 13. The limitations of adding a metal oxide to the salt

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bath are met since the Na_2O present in the aqueous solution of NaOH will dissociate and react with the salt bath.

Re claim 14, Wustman fails to teach the ratio of KOH to NaOH . Wustman teaches using a combination of KOH and NaOH . In the absence of a showing of criticality, it would have been within the level of the skilled artisan to adjust the concentration of the bases as needed in order to effectively strip the aluminide coating from the substrate surface.

Re claim 15, paragraph 78 teaches two acid baths, a first acid bath comprising a cold nitric acid solution and a second acid bath comprising 30% by weight nitric acid and about 0.3% by weight Activol wetting agent. Re claim 16, refer to paragraph 35 which teaches HCl can be added to the nitric acid bath. Re claim 17, refer to paragraph 6. Re claim 18, refer to paragraph 49. Re claims 19 and 20, refer to paragraphs 46 and 77. Additionally grit blasting would inherently produce an aluminide coating having smaller particles, thereby the limitations of grinding the turbine component would inherently be met. Re claim 20, refer to paragraph 78 which teaches grinding. Re claims 22 and 23, refer to the teachings of Fusnocht. Furthermore, re claim 23, the removal of aluminide (i.e. metal oxide) into the caustic bath reads on applicant's claimed limitation. Re claim 24, Wustman fails to teach drying. It would have been within the level of the skilled artisan to dry the substrate in order to remove any solvent residue and or water stain prior to performing additional steps such as recoating. Re claim 25, Wustman teaches rinsing between chemical treatment steps. Re claim 26, refer to paragraph 36.

Response to Arguments

6. The rejection of the claims, under 112, second paragraph is maintained for the reasons set forth above.

7. Applicant argues that the prior art of Wustman fails to teach the claimed bonding layer of MCrAlY, wherein M is selected from the group consisting of Fe, Ni, Cr.

Applicant is directed to paragraph 3 of Wustman. Furthermore, the deficiency is cured by applicant's admission of the prior art, as described above.

8. Applicant argues that Wustman fails to teach the limitation of "adding a sufficient amount of an oxygen donor". Applicant's arguments are unpersuasive since the Na₂O present in the aqueous solution of NaOH, as taught by Fusnocht will dissociate and react with the salt bath.

9. The double patenting rejection is withdrawn in view of filing and approval of the Terminal Disclaimer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sharidan Carrillo/
Primary Examiner, Art Unit 1792

bsc